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Horikawa et al.

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(54) **COMPUTER ANIMATION GENERATOR**

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(*) **Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.** **382/203; 382/266; 345/420**

(58) **Field of Search** **382/203, 266; 395/141, 119; 345/420, 421, 434**

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(57) ABSTRACT

Polygonal data input in a first step is subjected to evaluation in which all edges of the polygon data are ranked in importance on the basis of a volume change caused by removal of that edge. The edges are sorted on the basis of an evaluation value in a third step. In a fourth step, the edge of a small evaluation value is determined to be an edge of a small influence on the general shape and is removed. In a fifth step, a new vertex is determined from the loss of vertex by the edge removal. In a sixth step, a movement of texture coordinates and a removal of the texture after the edge removal are executed on the basis of the area change of the texture due to the edge removal by a predetermined evaluating function. In a seventh step, by repeating the processes in the second to sixth steps, a polygon model approximated to a desired layer can be obtained.

304 Claims, 15 Drawing Sheets

